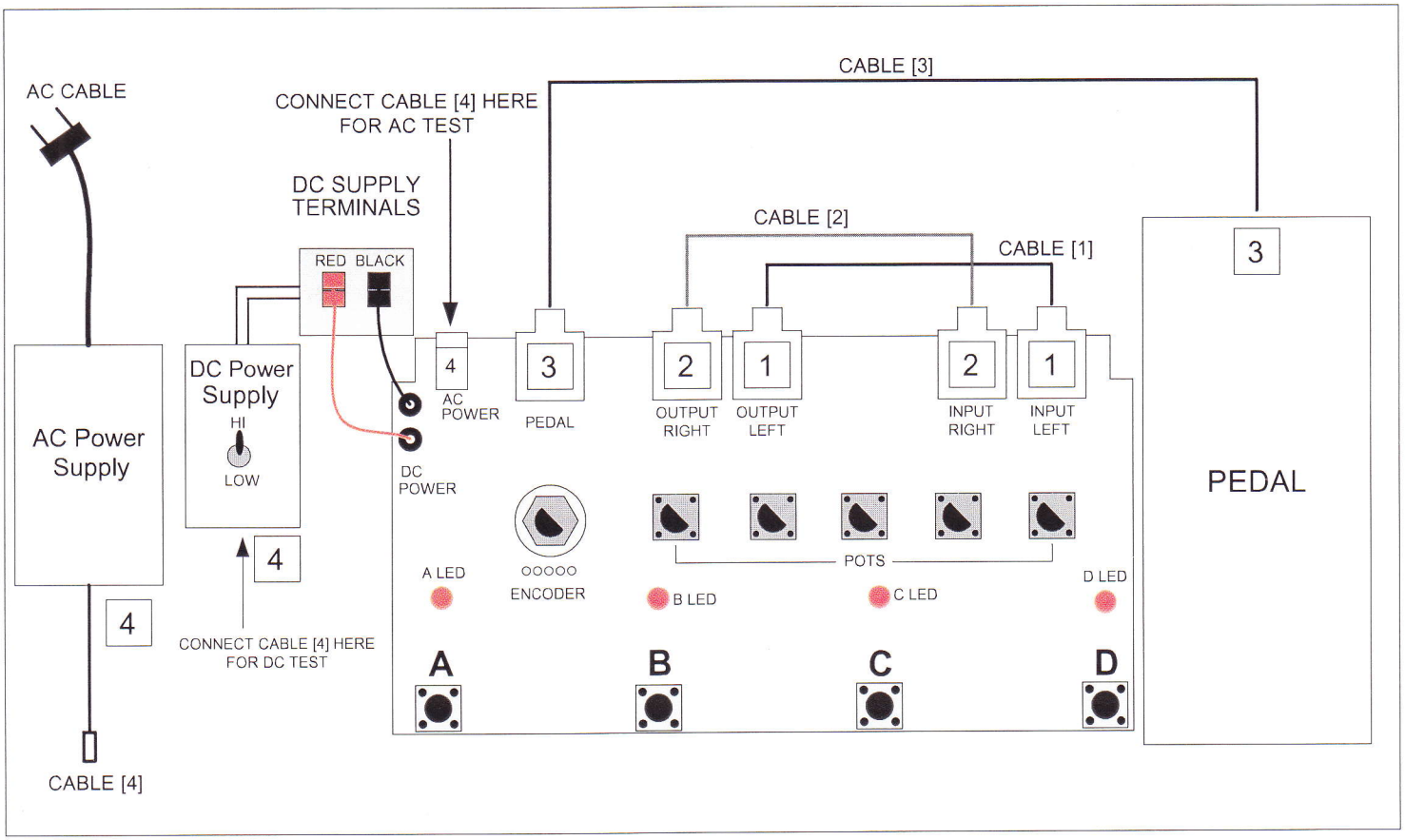
LINE 6
Engineering

Revision: 1
Date: September 1, 2000
File: Data on Ffd\Clients\Ffd\4x4\Documentation\Testing\4x4 Self-Test Instructions Revision 1.doc

DL4/MM4/DM4 Detailed Test Instructions

Test Fixture Setup:



DM4 does not have a right input or output jack. Optional clip leads are included if red/black wires are not installed on PCB.

Setup Instructions:

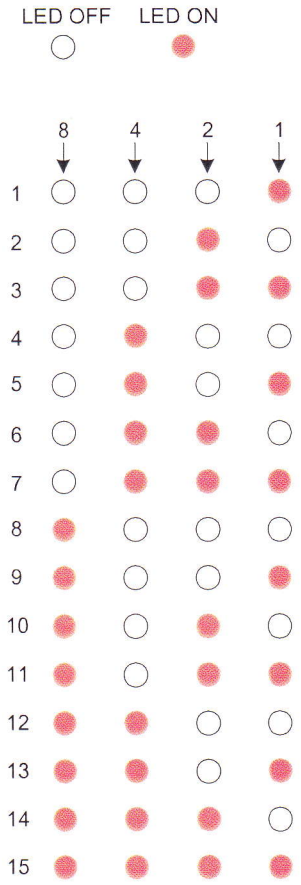
1. Connect AC cable to wall outlet. Connect cable [4] to DC power supply.
2. Place PCB on test fixture.
3. Connect red and black wires on PCB to DC Supply Terminals. Make sure DC Power Supply switch is set to HI.
4. Connect cables [2] and [3]. NOTE: There is no cable [2] for DM4. Connect cable [1] only to left output.
5. Hold down the "A" button and connect cable [1] to left input. The "D" LED will turn on indicating you are in test mode.

Test Instructions:

Press the "D" button to select a test. The test number is indicated with the LEDs in binary.
Press "B" and "C" buttons at the same time to start test.
Check test results. Some tests will flash an LED to indicate pass or fail. Other tests results are determined checking the LED display.

Binary Numbers: Each LED has a different number value. The "A" LED = 8, "B" LED = 4, "C" LED = 2, "D" LED = 1. Only LEDs that are on have a value. The binary numbering method is used to indicate the test number (1-11) and also the test results for the encoder test (1-15).

Example: The number 7 is represented by the "A" LED = 0, "B" LED = 4, "C" LED = 2, "D" LED = 1. 0+4+2+1 = 7

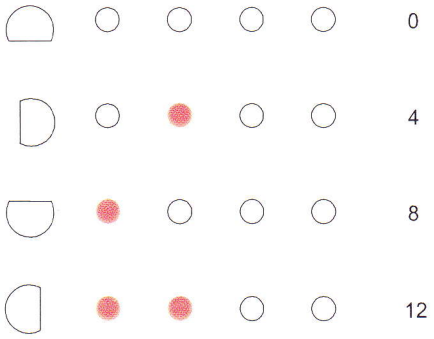


Test 1
EPROM Test - Press buttons "B" and "C" at the same time to start test.
Pass: "A" LED flashes
Fail: "D" LED flashes.
Press button "D" to advance to next test.

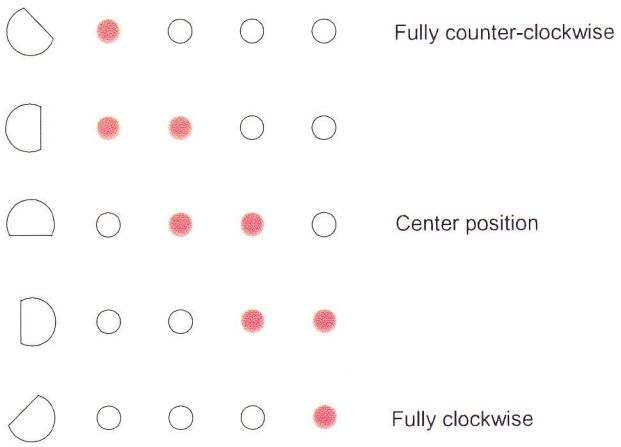
Test 2
EEPROM Test - Press buttons "B" and "C" at the same time to start test.
Pass: "A" LED flashes.
Fail: "D" LED flashes.
Press button "D" to advance to next test.

Test 3
LED Test – Press buttons "B" and "C" at the same time to start test. All LEDs turn on, then off. Each LED turns on/off separately. Press button "D" to advance to next test.

Test 4
ENCODER Test – Press buttons "B" and "C" at the same time to start test. Rotate encoder (E1) through all 16 positions. LEDs will indicate corresponding binary number from 0 to 15. Start with the flat side of encoder shaft facing down, the LEDs will show 0. Turning clockwise from this position, the LEDs should count up in binary from 0 to 15. NOTE: There are three encoder positions between each of the four positions shown below. Press buttons "B" and "C" at the same time to stop test. Press button "D" to advance to next test.

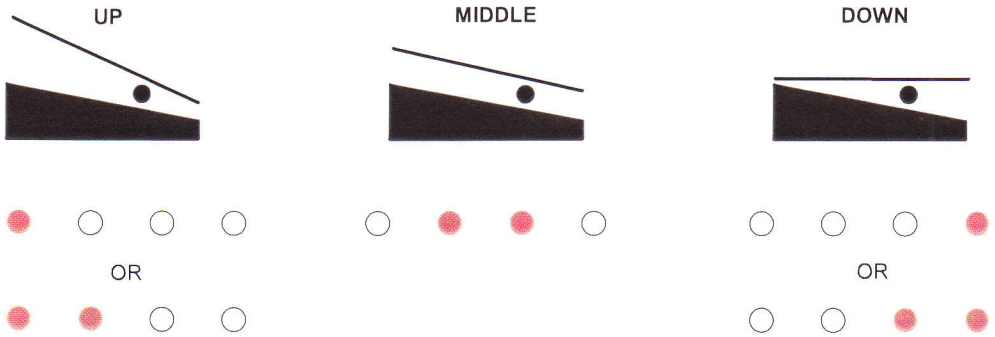


Test 5
POTS Test - Press buttons "B" and "C" at the same time to start test. Rotate each pot and look for the following test results. Press buttons "B" and "C" at the same time to stop test. Press button "D" to advance to next test.



Test 6
BUTTON Test – Press buttons "B" and "C" at the same time to start test. Press each button separately and check that its corresponding LEDs turns on. LED will only turn on when button is held down. Press buttons "B" and "C" at the same time to stop test. Press button "D" to advance to next test.

Test 7
PEDAL Test - Press buttons "B" and "C" at the same time to start test. Move the pedal up and down checking for the following LED test results. Press buttons "B" and "C" at the same time to stop test. Press button "D" to advance to next test.



Test 8
BATTERY Test - Press buttons "B" and "C" at the same time to start test. "A" LED should flash with DC power supply switch in Hi (6.0V) position. "D" LED should flash with DC power supply switch in Low (4.2V) position. Press buttons "B" and "C" at the same time to stop test. Press button "D" to advance to next test.

Test 9
FREQUENCY Test – Make sure cables [1], [2] are connected to inputs/outputs. NOTE: DM4 does not have a cable [2].
Press buttons "B" and "C" at the same time to start test.
Pass: "A" LED flashes.
Fail: "D" LED flashes. "B" LED will turn on for left channel failure. "C" LED will turn on for right channel failure.
Press button "D" to advance to next test.

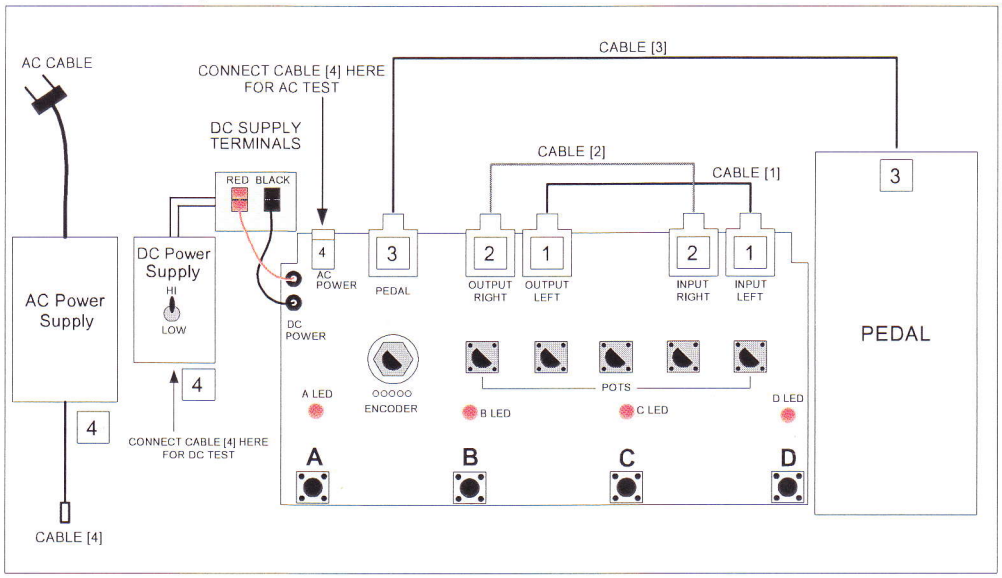
Test 10
DISTORTION Test – Make sure cables [1], [2] are connected to inputs/outputs. NOTE: DM4 does not have a cable [2].
Press buttons "B" and "C" at the same time to start test.
Pass: "A" LED flashes.
Fail: "D" LED flashes. "B" LED will turn on for left channel failure. "C" LED will turn on for right channel failure.
Press button "D" to advance to next test.

Test 11 (DL4 and DM4 ONLY)
DRAM Test - Make sure cables [1], [2] are connected to inputs/outputs. NOTE: DM4 does not have a cable [2].
Press buttons "B" and "C" at the same time to start test.
Pass: "A" LED flashes.
Fail: "D" LED flashes. "B" LED will turn on for left channel failure. "C" LED will turn on for right channel failure.
Press button "D" to advance back to Test 1.

Test 12 (You do not need to be in test mode for this test)
AC POWER Test – Disconnect cable [4] from DC power supply and connect to AC power jack [4] on PCB. Press "A" button and check if corresponding LED turns on. If LED turns on, the test passes.

DL4/MM4/DM4 Simple Test Instructions

Test Fixture Setup:



DM4 does not have a right input or output jack.

Setup Instructions:

1. Connect AC two prong cable to wall outlet. Connect other end of AC power supply to DC power supply.
2. Place PCB on test fixture.
3. Connect red and black wires on PCB to DC Supply Terminals. Make sure DC Power Supply switch is set to HI.
4. Connect cables [2] and [3]. NOTE: There is no cable [2] for DM4. Connect cable [1] only to left output.
5. Hold down the "A" button and connect cable [1] to left input. The "D" LED will turn on indicating you are in test mode.

1. **EPROM:** Pass = "A" LED Flashing Fail = "D" LED Flashing

2. **EEPROM:** Pass = "A" LED Flashing Fail = "D" LED Flashing

3. **LED:** All LEDs turn on, then off. Each LED turns on/off separately.

4. **ENCODER:** Rotate encoder (E1) through all 16 positions. LEDs will indicate corresponding binary number from 0 to 15. Start with the flat side of encoder shaft facing down.

5. **POTS:** Rotate each pot and and use LED display to check for pass/fail.

6. **BUTTONS:** Press and hold down each button separately, checking that the corresponding LED turns on.

7. **PEDAL:** Move pedal up and down using LED display to check for pass/fail.

8. **BATTERY:** "A" LED should flash with DC switch set hi. "D" LED should flash with DC switch set low.

9. **FREQUENCY:** Pass = "A" LED Flashing Fail = "D" LED Flashing, "B" = left channel, "C" = right channel

10. **DISTORTION:** Pass = "A" LED Flashing Fail = "D" LED Flashing, "B" = left channel, "C" = right channel

11. **DRAM (DL4 and DM4 ONLY):** Pass = "A" LED Flashing Fail = "D" LED Flashing

12. **AC POWER:** Disconnect cable [4] from DC power supply and connect to AC power jack [4] on PCB. Press "A" button and check if corresponding LED turns on. If LED turns on, the test passes.

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Procedure for reinitialization of Line 6 Stomp Box modeler pedals.

Power unit up (plug ¼" jack into the "L/mono" input jack) while holding down the far right and far left buttons. Hold for 3 seconds and then release. Factory presets will be re-installed.

Procedure for identifying firmware version of Line 6 Stomp Box Modelers

Hold down far right button while powering unit up (insert a ¼" jack into L/mono" input jack). Far left LED will flash for the MAJOR version; second LED from left will flash for minor version.
Example: Version 1.2 = Far left LED will flash once, second LED from left will flash twice.